AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1.   (Original)   A method of detecting memory leaks for an application program executing on a computer, said method comprising the step of determining when a peak allocated memory level has increased a determined number of times.

2.   (Original) The method of claim 1 wherein said step of determining when a peak allocated memory level has increased a determined number of times is performed during a determined time interval.

3.   (Original) The method of claim 1 further comprising the step of filtering out increases in peak allocated memory levels not indicative of a memory leak associated with said program.

4.   (Original) The method of claim 3 wherein said filtering step includes the substep of:

ignoring increases in peak allocated memory levels during a startup time interval immediately after said program begins to execute.

5.   (Original) The method of claim 3 wherein said filtering step includes the substep of:

ignoring increases in peak allocated memory levels that occur less than a preselected time apart, which may be indicative of normal memory allocation activity.

6.   (Original) The method of claim 1 further including the step of:

determining a memory leakage rate when the peak allocated memory level has increased said determined number of times during a determined time interval.

7. (Original) The method of claim 6 further including the step of:

producing a response when the leakage rate exceeds a preselected level.

8. (Original) The method of claim 1 further including the step of:

selecting the response from one of an action and a notification.

9. (Original) The method of claim 8 wherein the selected response is an action, said method further comprising the step of:

selecting the action from the group comprising no action, running a program or script, killing the program, rebooting the computer on which the program is executing and a combination of any of the foregoing actions.

10. (Original) The method of claim 8 wherein the selected response is a notification, said method further comprising the step of:

selecting the notification from the group comprising an e-mail message, a simple network monitoring protocol (SNMP) message, a telecommunications page, a visual notification on a management console or on the computer on which the program is executing, an audio notification on a management console or on the computer on which the program is executing, and a combination of any of the foregoing notifications.

11. (Original) The method of claim 7 further including the step of:

recording the response.

12. (Original) The method of claim 6 further including the step of:

generating an alarm signal when the leakage rate exceeds a preselected level.

13. (Currently Amended) The method of claim 1 wherein said determined number of times is calculated ~~either (i)~~ prior to ~~performance of said method or (ii) dynamically during performance of said method~~ said step of determining when a peak allocated memory level has increased a determined number of times.

14.   (Original) The method of claim 2 further comprising the step of filtering out increases in peak allocated memory levels not indicative of a memory leak associated with said program, wherein said filtering step includes the substeps of:

ignoring increases in peak allocated memory levels during a startup time interval immediately after said program begins to execute;

ignoring increases in peak allocated memory levels that occur after said startup time interval but that occur less than a preselected time apart, which may be indicative of normal memory allocation activity.

15.   (Original) The method of claim 14 further including the step of:

determining a memory leakage rate when the peak allocated memory level has increased said determined number of times during a determined time interval and producing a response when the leakage rate exceeds a preselected level.

16.   (Original) A method of detecting memory leaks for a program executing on a computer, said method comprising the steps of:

(A)   monitoring allocated memory levels and filtering out increases in peak allocated memory levels not indicative of a memory leak associated with said program;

(B)   determining a memory leakage rate when a peak allocated memory level has increased a determined number of times;

(C)   producing an alarm response when the determined leakage rate exceeds a preselected level.

17.   (Original) The method of claim 16 wherein step (B) is performed during a determined time interval.

18.   (Original) The method of claim 16 wherein said steps (A) through (C) are performed sequentially.

19.   (Original) The method of claim 16 wherein said program is a first program, said method being performed by a second program executing on the computer on which the first program is executing.

20.   (Original) The method of claim 19 wherein said computer is a first computer, said second program is executed in part on a second computer different from said first computer.

21.   (Original) The method of claim 20 wherein said first and second computers are coupled to each other by a network.

22.   (Original) The method of claim 19 further including the steps of:

selecting at least one operating parameter from the group including said determined number of times of peak allocated memory level increases, said determined time interval, said preselected level of said memory leakage rate, a sampling rate at which said monitoring step is performed, a startup time interval in which increases in peak allocated memory levels are filtered out, a time delay between increases in the peak allocated memory levels for which such increases are ignored as to said determined number of times the peak allocated memory level has increased, and said response; and

providing an interface for said second computer program that allows a user to specify a value for said at least one operating parameter.

23.   (Original) The method of claim 22 wherein said providing step includes the substep of:

configuring said interface so as to allow a user to specify a plurality of values for a corresponding plurality of said operating parameters.

24.   (Original) The method of claim 20 further including the steps of:

selecting at least one operating parameter from the group including said determined number of times of peak allocated memory level increases, said determined time interval, said preselected level of said memory leakage rate, a sampling rate at which said monitoring step is performed, a startup time interval in which increases in peak allocated memory levels are filtered out, a time delay between increases in the peak allocated memory levels for which such increases are ignored as to said determined number of times the peak allocated memory level has increased, and said response; and

providing an interface for said second computer program that allows a user to specify a value for said at least one operating parameter.

25.   (Original) The method of claim 24 wherein said providing step includes the substep of:

configuring said interface so as to allow a user to specify a plurality of values for a corresponding plurality of said operating parameters.

26.   (Original) An apparatus for detecting memory leaks for a program executing on a computer, said apparatus comprising:

means for monitoring allocated memory levels and filtering out increases in peak allocated memory levels not indicative of a memory leak associated with said program;

means for producing a response when a peak allocated memory level has increased a determined number of times.

27.   (Original) The apparatus of claim 26 wherein said producing means produces a response when a peak allocated memory level has increased a determined number of times during a determined time interval.

28.   (Original) The apparatus of claim 26 wherein said monitoring and filtering means includes means for ignoring increases in peak allocated memory levels during a startup time interval immediately after said program begins to execute.

29.   (Original) The apparatus of claim 26 wherein said monitoring and filtering means further includes means for ignoring increases in peak allocated memory levels that occur less than a preselected time apart, which may be indicative of normal memory allocation activity.

30.   (Original) The apparatus of claim 26 further including means for determining a memory leakage rate when the peak allocated memory level has increased said determined number of times.

31.   (Original) The apparatus of claim 30 further including means for producing a response when the leakage rate exceeds a preselected level.

32.   (Original) The apparatus of claim 31 further including means for selecting the response from a plurality of actions, a plurality of notifications or a combination of said pluralities of both actions and notifications.

33.   (Original) The apparatus of claim 32 wherein the selected response is an action, said apparatus further comprises means for selecting the action from the group comprising no action, running a program or script, killing the program, rebooting the computer on which the program is executing and a combination of any of the foregoing actions.

34.   (Original) The apparatus of claim 32 wherein the selected response is a notification, said apparatus further comprises means for selecting the notification from the group comprising an e-mail message, a simple network monitoring program (SNMP) message, a telecommunications page, a visual notification on a display associated with the computer on which the program is executing, an audio notification originating with the computer on which the program is executing, and a combination of any of the foregoing notifications.

35.   (Original) The apparatus of claim 31 further including means for recording the response.

36.   (Original) The apparatus of claim 30 further including means generating an alarm signal when the leakage rate exceeds a preselected level.